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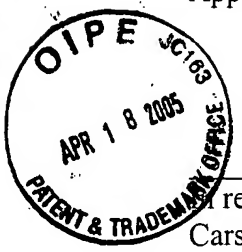

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Carsten Woerner et al.

Application No.: 10/088656 Confirmation No.: 2826

Filed: June 13, 2002 Art Unit: 1714

For: POLYOXYMETHYLENE WITH IMPROVED RESISTANCE TO ACIDS AND ITS USE Examiner: L. K. I. Wyrozebski

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APPEAL BRIEF

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APPEAL BRIEF

I. THE REAL PARTY OF INTEREST

Ticona GmbH is the real party of interest. The application was assigned and recorded on June 13, 2002, on Reel No. 013124 and Frame No. 0665.

II. RELATED APPEALS AND INTERFERENCES

The undersigned is not aware of any related appeals or interferences involving this application.

III. THE STATUS OF THE CLAIMS

Claims 1-10 and 15 are cancelled. Claims 11-14 and 16-27 are pending. The subject of the appeal are claims 11-14 and 16-27 which are attached in Appendix I.

IV. STATUS OF AMENDMENTS AFTER FINAL

An Amendment After Final was filed on January 10, 2005. The amendment was made of record (see the Advisory Action mailed February 2, 2005). The Examiner stated in the Advisory Action that the amendment overcame the 35 U.S.C. 103 rejections of record and the 35 U.S.C. 112 rejection of record.

V. SUMMARY OF THE INVENTION

(Each independent claim and refer to specification by page). The application contains two independent claims 11 and 27. Claims 11 and 27 are as follows:

11. A polyoxymethylene composition comprising

A from 84 to 99.79% by weight of at least one polyoxymethylene homo- or copolymer,

B from 0.1 to 5% by weight of at least one polyalkylene glycol,

C from 0.1 to 10% by weight of zinc oxide, and

D from 0.01 to 1% by weight of one or more nitrogen-containing costabilizer and wherein the nitrogen-containing costabilizer comprises at least one amino compound, amide compound, hydrazine compound, urea compound or a hindered amine (see the specification at page 3, lines 5-13 and page 4,line 37 through page 5 line 2).

27. A molding made from a polyoxymethylene composition comprising

A from 84 to 99.79% by weight of at least one polyoxymethylene homo- or copolymer,

B from 0.1 to 5% by weight of at least one polyalkylene glycol,

C from 0.1 to 10% by weight of zinc oxide, and

D from 0.01 to 1% by weight of one or more nitrogen-containing costabilizer wherein the molding when in contact with aggressive acids or with aggressive acid-containing cleaning agents is resistive to said aggressive acids or said aggressive acid-containing cleaning agents. (see the specification at page 3, lines 5-13 and lines 24-29).

Dependent claims 16-18 and 24 are also patentable and are as follows:

16. The polyoxymethylene as claimed in claim 14, wherein the nitrogen-containing costabilizer comprises melamine. (see component D1 in the examples in the specification).

17. The polyoxymethylene as claimed in claim 11, wherein the amount of nitrogen-containing costabilizers is from 0.03 to 0.3% by weight (see page 5, lines 4 and 5 of the specification).

18. The polyoxymethylene as claimed in claim 16, wherein the amount of nitrogen-containing costabilizers is from 0.03 to 0.3% by weight. (see page 5, lines 4 and 5 of the specification component D1 in the examples).

24. A molding made from the polyoxymethylene as claimed in claim 11 wherein the molding when in contact with aggressive acids or with aggressive acid-containing cleaning agents is resistive to said aggressive acids or said aggressive acid-containing cleaning agents. (see the specification at page 3, lines 24-29)

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 11-15, 17, 19-22, 24-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of Kurz ("Kurz")?

2. Whether claims 11-14 and 16-27 are rejectable under 35 U.S.C. 102(e) as being anticipated by Kurz?

3. Whether Kurz claims or teaches the feature of claim 16 that the costabilizer comprises melamine?

4. Whether Kurz claims or teaches the feature of claim 17 that the amount of nitrogen-containing costabilizers is from 0.03 to 0.3% by weight?

5. Whether Kurz claims or teaches the feature of claim 18 that the amount of nitrogen-containing costabilizers is from 0.03 to 0.3% by weight and the costabilizer is melamine?

6. Whether Kurz teaches the feature of claim 23 that said at least one polyoxymethylene homo- or copolymer is a homopolymer of formaldehyde or trioxane?

7. Whether Kurz claims or teaches the feature of claims 24 and 27 that the molding when in contact with aggressive acids or with aggressive acid-containing cleaning

agents is resistive to said aggressive acids or said aggressive acid-containing cleaning agents?

VII. ARGUMENTS

Claims 11-14, 19-23 and 25-26

Double Patenting Rejection

Claims 11-15, 17, 19-22, 24-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of Kurz. The Kurz's claimed component D is defined in claim 1 as follows:

> "(D) from **0 to 50%** by weight of fillers, reinforcing materials and/or additives wherein the additives are selected from the group consisting of (1) **stabilizers, (2) nucleating agents, (3) antistatics, (4) light stabilizers, (5) lubricants, (6) plasticizers, (7) pigments, (8) dyes, (9) optical brighteners, (10) processing auxiliaries, and (11) mixtures thereof."**[1] (emphasis added)

Claim 6 of Kurz states

> The composition as claimed in claim 5, wherein from 0.1 to 5% by weight is an additive and said additive is a stabilizer.

Kurz discloses the stabilzers at col. 2, lines 43-56 as follows:

> Suitable polyacetal stabilizers against the effect of heat are, in particular, polyamides, amides, for example dicyandiamide, hydrazines, ureas, poly(N-vinyllactams) and **alkaline earth metal salts of aliphatic, preferably hydroxyl-containing, mono- to tribasic carboxylic acids having 2 to 20 carbon atoms, for example calcium stearate, calcium ricinoleate, calcium lactate and calcium citrate**. The oxidation stabilizers used are, in particular, bisphenol compounds, preferably diesters of monobasic

[1] The numbers have been inserted by the applicant and were not in the original claim.

> 4-hydroxyphenylalkanoic acids containing from 7 to 13, preferably 7, 8 or 9, carbon atoms.
>
> Examples of suitable light stabilizers are **alpha-hydroxybenzophenone derivatives and benzotriazole derivatives**.

The applicant's claimed component D) is

> from 0.01 to **1% by weight** of one or more nitrogen-containing costabilizer and wherein the nitrogen-containing costabilizer comprises at least one amino compound, amide compound, hydrazine compound, urea compound or a hindered amine. (emphasis added)

Claims 1 and 6 of Kurz require component (D) in a broad range (from 0 to 50% for claim 1 and from 0.1 to 5% for claim 6), compared to only from 0.01 to 1% as is required by the applicant's claimed invention. In addition, the applicant's claimed invention requires that component (D) is not only one or more nitrogen-containing costabilizer, but comprises at least one amino compound, amide compound, hydrazine compound, urea compound or a hindered amine. This is not claimed by Kurz. Dependent claim 6 of Kurz only limits the additive to a stabilizer, but not to a nitrogen-containing costabilizer, let alone costabilizer which comprises at least one amino compound, amide compound, hydrazine compound, urea compound or a hindered amine (see claim 1). There are several different stabilizers disclosed in Kurz. Kurz discloses that component (D) which covers the benzotriazole light-stabilizers which are not covered by the applicant's claimed invention. The applicant's claimed invention is a **selection invention over Kurz**. For the above reasons, this rejection should be withdrawn.

35 U.S.C. 102(e) REJECTION

Claims 11-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Kurz. The applicant again respectfully disagrees. For anticipation to apply, every claimed feature must be taught in the prior art. Kurz does not teach component (D). Kurz' component (D) is as follows:

> "(D) from **0 to 50%** by weight of fillers, reinforcing materials and/or additives wherein the additives are selected from the group consisting of (1) **stabilizers, (2) nucleating agents, (3) antistatics, (4) light stabilizers, (5) lubricants, (6) plasticizers, (7) pigments, (8) dyes, (9) optical brighteners, (10) processing auxiliaries, and (11) mixtures thereof."** (emphasis added)

There are 10 different groups disclosed for this optional component. In the applicant's claimed invention component D) is not optional. In fact, in the applicant's claimed invention, it is a specific group within the 10 different optional groups disclosed by Kurz. Further component D) must be present in an amount form 0.01 to 1%. This is range is included in the range from 0 to 50%, but this range is not taught by Kurz. The applicant's claimed component D) (one or more nitrogen containing costabilizers) in an amount from 0.01 to 1% was not recognized by Kurz. The examples in Kurz did not contain any costabilizers, let alone the one the applicant's claimed stabilizer (wherein the nitrogen-containing costabilizer comprises at least one amino compound, amide compound, hydrazine compound, urea compound or a hindered amine) and in the amount required by the applicant's claimed invention.

Kurz focuses on resistance against diesel fuel and against gasoline while this patent application focuses on acid resistance. Therefore, the claimed invention is not anticipated by Kurz.

Claim 16

It is noted that claim 16 is not rejected over double patenting over Kurz. With respect to the anticipation rejection, Kurz does not disclose the feature that the costablilzer comprises melamine. Therefore, Kurz does not anticipate the applicant's claimed invention.

Claim 17

Claim 17 has the feature that the amount of nitrogen-containing costabilizers is from 0.03 to 0.3% by weight. Kurz's claims 1 and 6 require component (D) in a broad range (from 0 to 50% for claim 1 and from 0.1 to 5% for claim 6), compared to only from 0.03 to 0.3% as is required by the applicant's claimed invention. In addition, the applicant's claimed invention requires that component (D) is not only one or more nitrogen-containing costabilizer, but comprises at least one amino compound, amide compound, hydrazine compound, urea compound or a hindered amine. This is not claimed by Kurz. Dependent claim 6 only limits the additive to a stabilizer, but not to a nitrogen-containing costabilizer, let alone costabilizer which comprises at least one amino compound, amide compound, hydrazine compound, urea compound or a hindered amine. There are several different stabilizers disclosed in Kurz. Kurz discloses that component (D) which covers the benzotriazole light-stabilizers which are not covered by the applicant's claimed invention. The applicant's claimed invention is a **selection invention over Kurz**.

With respect to the anticipation rejection, as stated above, there are 10 different groups disclosed for this optional component. In the applicant's claimed invention

component D) is not optional. In fact, in the applicant's claimed invention, it is a specific group within the 10 different groups. Further component D) must be present in an amount form **0.03 to 0.3%**. This is range is included in the range from 0 to 50%, but this range is not taught by Kurz. The applicant's claimed component D) (one or more nitrogen containing costabilizers) in an amount from 0.03 to 0.3% was not recognized by Kurz. The examples in Kurz did not contain any costabilizers, let alone the one the applicant's claimed stabilizer (wherein the nitrogen-containing costabilizer comprises at least one amino compound, amide compound, hydrazine compound, urea compound or a hindered amine) and in the amount required by the claimed invention (0.03 to 0.3%).

Claim 18

It is noted that claim 18 is not rejected over double patenting over Kurz. Claim 18 further limits claim 16 and has all the features of both claims 16 and 17 (requires that the costabilizer comprises melamine and is present in an amount from 0.03 to 0.3%). As stated above for claims 16 and 17 neither of these features is taught by Kurz.

Claim 24

Claim 24 further limits claim 11, and has the added feature that the molding when in contact with aggressive acids or with aggressive acid-containing cleaning agents is resistive to said aggressive acids or said aggressive acid-containing cleaning agents. This feature is not disclosed or claimed in Kurz. Kurz focuses on resistance against diesel fuel and against gasoline while this patent application focuses on acid resistance. Therefore, claim 24 is further distinguished over Kurz and not anticipated by Kurz. Since none of the claims claim this feature, the double patenting rejection should be withdrawn.

Claim 27

It is noted that claim 27 is not rejected over double patenting over Kurz. With respect to the anticipation rejection, Kurz does not disclose the feature that the molding when in contact with aggressive acids or with aggressive acid-containing cleaning agents is resistive to said aggressive acids or said aggressive acid-containing cleaning agents. This feature is not disclosed or claimed in Kurz. Kurz focuses on resistance against diesel fuel and against gasoline while this patent application focuses on acid resistance. Again, this feature is not disclosed by Kurz and therefore claim 27 is not anticipated by Kurz.

VIII. CONCLUSION

It is believed that the claims define an invention which is new, useful, and unobvious. For the above reasons, the applicants request passage to allowance. This brief is being submitted in triplicate. The PTO is authorized to charge Deposit Account No. 03-2775 the amount of $500.00. The Notice of Appeal was filed on February 14, 2005. It is believed that no extensions are required.

However, in the event that the undersigned is mistaken in his calculations, an appropriate extension of time to respond is respectfully petitioned for, and the Commissioner is hereby authorized to charge the account of the undersigned attorneys, Patent Office Deposit Account No. 03-2775, for any fees which may be due upon the filing of this paper.

Respectfully submitted,

CONNOLLY BOVE LODGE & HUTZ LLP

By _____

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APPENDIX

1-10 cancelled

11. A polyoxymethylene composition comprising

A from 84 to 99.79% by weight of at least one polyoxymethylene homo- or copolymer,

B from 0.1 to 5% by weight of at least one polyalkylene glycol,

C from 0.1 to 10% by weight of zinc oxide, and

D from 0.01 to 1% by weight of one or more nitrogen-containing costabilizer and wherein the nitrogen-containing costabilizer comprises at least one amino compound, amide compound, hydrazine compound, urea compound or a hindered amine.

12. The polyoxymethylene as claimed in claim 11, wherein the amount of polyalkylene glycol is from 0.5 to 5% by weight.

13. The polyoxymethylene as claimed in claim 11, wherein the amount of zinc oxide is from 1 to 3% by weight.

14. The polyoxymethylene as claimed in claim 12, wherein the amount of zinc oxide is from 0.5 to 3% by weight.

15 cancelled

16. The polyoxymethylene as claimed in claim 14, wherein the nitrogen-containing costabilizer comprises melamine.

17. The polyoxymethylene as claimed in claim 11, wherein the amount of nitrogen-containing costabilizers is from 0.03 to 0.3% by weight.

18. The polyoxymethylene as claimed in claim 16, wherein the amount of nitrogen-containing costabilizers is from 0.03 to 0.3% by weight.

19. The polyoxymethylene as claimed in claim 11, wherein test specimens in the form of ISO ¼ tensile specimens of thickness 1 mm produced from pellets obtained by melting and palletizing a mixture made from components A to D, which on each of five days in succession were fully immersed for 20 seconds in an aqueous solution made from 10% by weight of phosphoric acid and 1% by weight of an ionic surfactant, were then removed and, without wiping off any adhering acid/surfactant solution, aged freely suspended for 24 hours in an environment with controlled temperature and humidity, at 23°C and relative humidity of about 30%, and then aged for further 9 days suspended in the environment with controlled temperature and humidity, show a relative weight difference of less than 15% compared with test specimens produced in the same way but not exposed to the acid/surfactant solution.

20. The polyoxymethylene as claimed in claim 19, wherein the relative change in weight of the test specimens made from components A to D is one third or less of the relative change in weight determined on test specimens made from 100% by weight of component A.

21. The polyoxymethylene as claimed in claim 11, wherein said polyalkylene glycol is polyethylene glycol.

22. The polyoxymethylene as claimed in claim 11, wherein said polyalkylene glycol is polypropylene glycol.

23. The polyoxymethylene as claimed in claim 11, wherein said at least one polyoxymethylene homo- or copolymer is a homopolymer of formaldehyde or or trioxane.[2]

24. A molding made from the polyoxymethylene as claimed in claim 11 wherein the molding when in contact with aggressive acids or with aggressive acid-containing cleaning agents is resistive to said aggressive acids or said aggressive acid-containing cleaning agents.

25. The molding as claimed in claim 25, wherein the molding is used in the sanitary sector or the white goods sector.

26. A method for improving the acid resistance of the polyoxymethylene homo- or copolymer which comprises making the polyoxymethylene as claimed in claim 11, by mixing components A-D together to form a mixture and then melting said mixture.

27. A molding made from a polyoxymethylene composition comprising

A from 84 to 99.79% by weight of at least one polyoxymethylene homo- or copolymer,

B from 0.1 to 5% by weight of at least one polyalkylene glycol,

C from 0.1 to 10% by weight of zinc oxide, and

D from 0.01 to 1% by weight of one or more nitrogen-containing costabilizer

wherein the molding when in contact with aggressive acids or with aggressive acid-

[2] The applicant authorizes the Examiner to delete the first occurrence of the word "or" in the claim.

containing cleaning agents is resistive to said aggressive acids or said aggressive acid-containing cleaning agents.